

## **Claims**

What is claimed is:

1. A ferrule for a fiber optic cable, the ferrule comprising:
  - an outer wall and an inner wall, the inner wall shaped to receive a jacketed fiber optic cable end;
  - at least one cavity recessed within the inner wall; and
  - a passage extending from the at least one cavity to the outer wall.
2. The ferrule of claim 1 wherein there are a plurality of cavities annularly spaced around the inner wall.
3. The ferrule of claim 2 wherein there are sets of cavities spaced along a length of the inner wall.
4. The ferrule of claim 2 wherein the annularly spaced cavities form a four leaf clover configuration.
5. The ferrule of claim 4 wherein clovers of the four leaf clover configuration are connected by rounded edges.
6. The ferrule of claim 2 wherein the cavities include semi-oval shaped elements.

7. The ferrule of claim 6 wherein the annularly spaced semi-oval shaped elements are connected by inclined surfaces joined to short edges extending from the semi-oval shaped elements and parallel to the passages.

8. The ferrule of claim 1 wherein the ferrule has a cable insertion end and an opposite, light-output end.

9. The ferrule of claim 8 further comprising a narrow inner channel adjacent the light-output end sized to receive and align a fiber core of the fiber optic cable.

10. The ferrule of claim 9 further comprising an inner conical wall within the ferrule converging to the narrow inner channel.

11. A ferrule for a fiber optic cable comprising:

a section having an exterior and an inner annular wall sized to receive the fiber optic cable; and

a plurality of cavities recessed within the inner annular wall and open to the exterior of the section.

12. The ferrule of claim 11 further comprising an additional section with a narrow channel sized to receive a fiber core of the cable.

13. The ferrule of claim 12 further comprising a conical wall connected to the inner annular wall and converging to the narrow channel.

14. The ferrule of claim 11 wherein the cavities are spaced around the inner annular wall.

15. The ferrule of claim 11 wherein the cavities are spaced along the length of the inner annular wall.

16. The ferrule of claim 11 wherein separate passages join each cavity to the exterior of the ferrule, the passages being smaller in cross-sectional area than the cavities.

17. The ferrule of claim 16 wherein the passages extend between recesses in the exterior of the ferrule to the cavities.

18. A method for securing a ferrule to an end of a fiber optic cable comprising the steps of:

forming the ferrule with at least one cavity allowing the passage of light from outside the ferrule to an interior of the ferrule;

inserting the end of the cable into the ferrule such that there is a snug fit between the ferrule and an outer covering surrounding the fiber; and

using a laser directed through the at least one cavity to heat the covering until it flows into the at least one cavity and bonds with the ferrule.

19. The method of claim 18 wherein the ferrule is formed with multiple cavities.

20. The method of claim 19 wherein a laser is directed through each cavity to secure the ferrule to the cable end at multiple locations.